the westerlies aloft were stronger than normal (fig. 1) so that frequent foehn warming alternated with the polar outbreaks and caused temperatures to average above normal in the lower and western parts of the Missouri Valley. The most extreme example of this occurred during the last week of the month at Goodland, Kans., where the temperature dropped from 79° F. on the 26th to 3° F. on the 27th, or a 76° fall in 18 hours. (See article by Miller and Gould on following pages for a detailed description of this cold wave.)

## REFERENCES

- S. Petterssen and J. M. Austin, "Fronts and Frontogenesis in Relation to Vorticity", Papers in Physical Oceanography and Meteorology, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, vol. 7, No. 2, 1942.
- 2. H. Kuo, "The Motion of Atmospheric Vortices and the General Circulation", *Journal of Meteorology*, vol. 7, No. 4, Aug. 1950, p. 247-258.

## NOTICE OF CHANGE IN CLIMATOLOGICAL CHARTS

The charts showing weather data for the month which appear at the back of each issue of the Review have been revised and augmented effective with this issue. Most of the maps showing departures of the weather elements from normal have been enlarged and new maps showing percentages of normal amounts of precipitation, snowfall,

and cloudiness have been added. Another new chart giving monthly solar radiation data has been inserted, The former Chart IV "Percentage of Clear Sky between Sunrise and Sunset" has been reversed and now appears as Chart VI "Percentage of Cloudiness between Sunrise and Sunset".